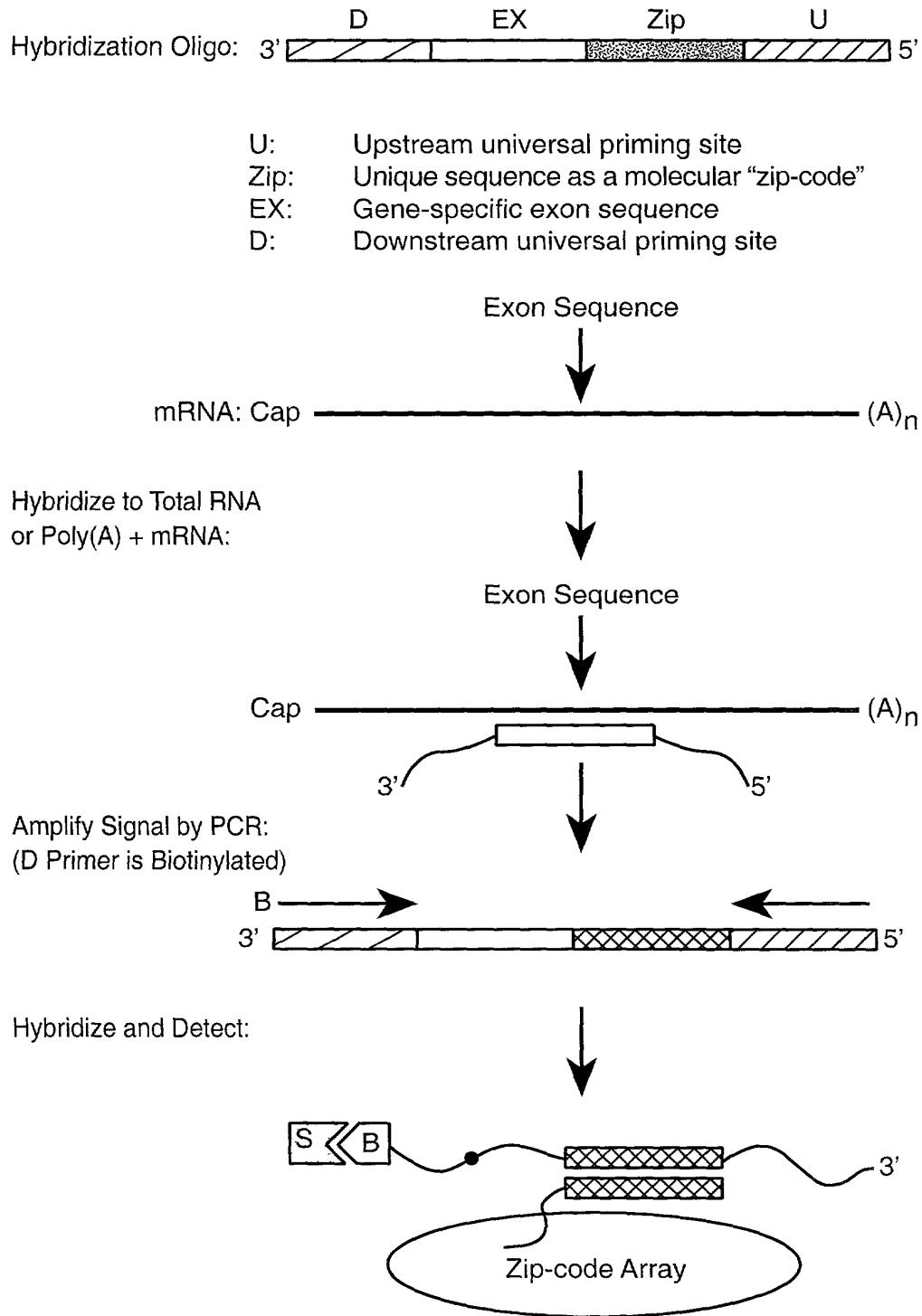


A Flow Chart for Array-based Detection of Gene Expression**FIG._1**

A Flow Chart for Array-based Detection of RNA Alternative Splicing

Hybridization Oligo: 3'  5'

- U: Upstream universal priming site
- Zip: Unique sequence as a molecular "zip-code"
- SJ: Gene-specific splice junction
- D: Downstream universal priming site

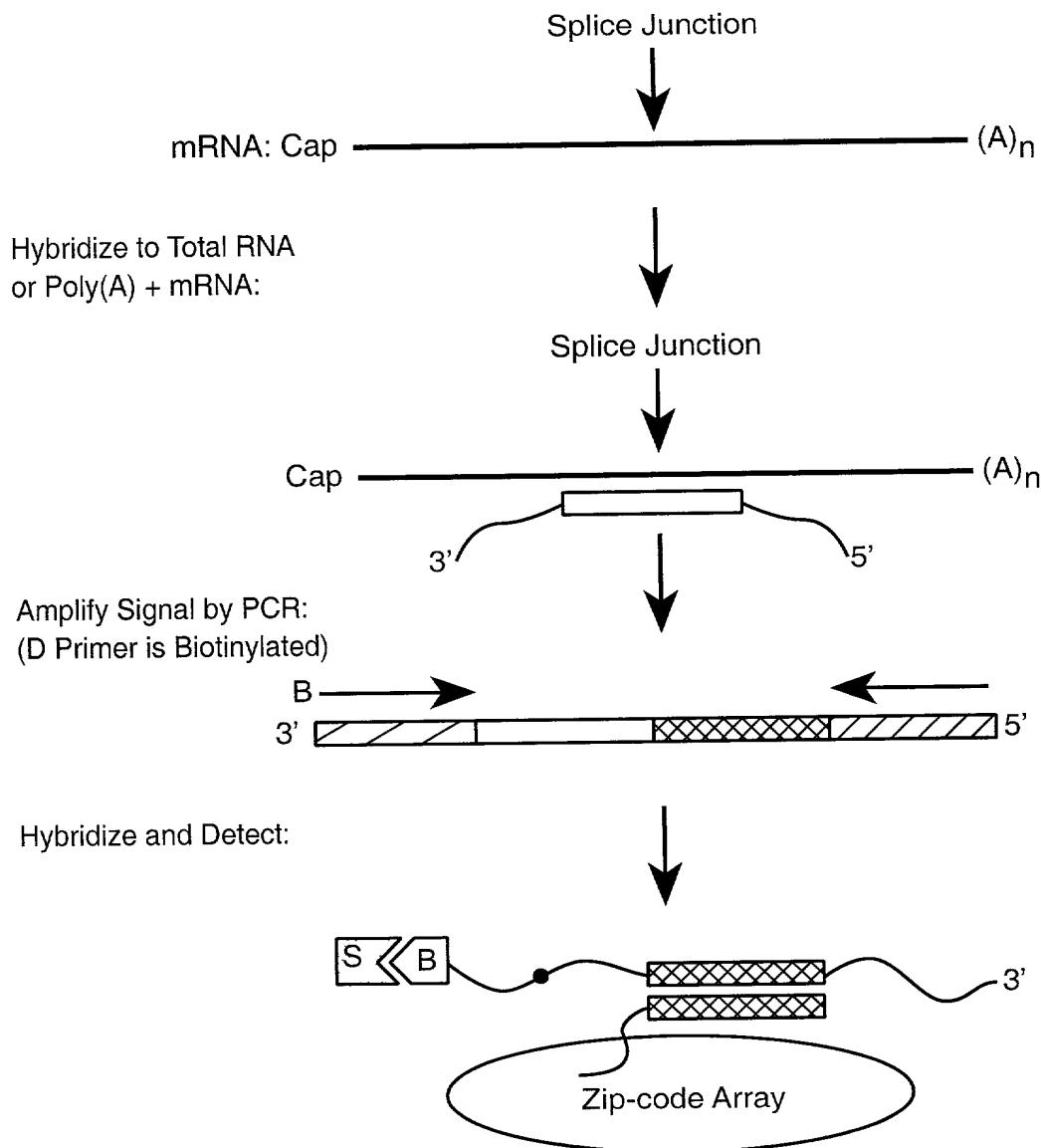


FIG._2

Genome-wide Gene Expression Profiling Using Oligo-ligation Strategy

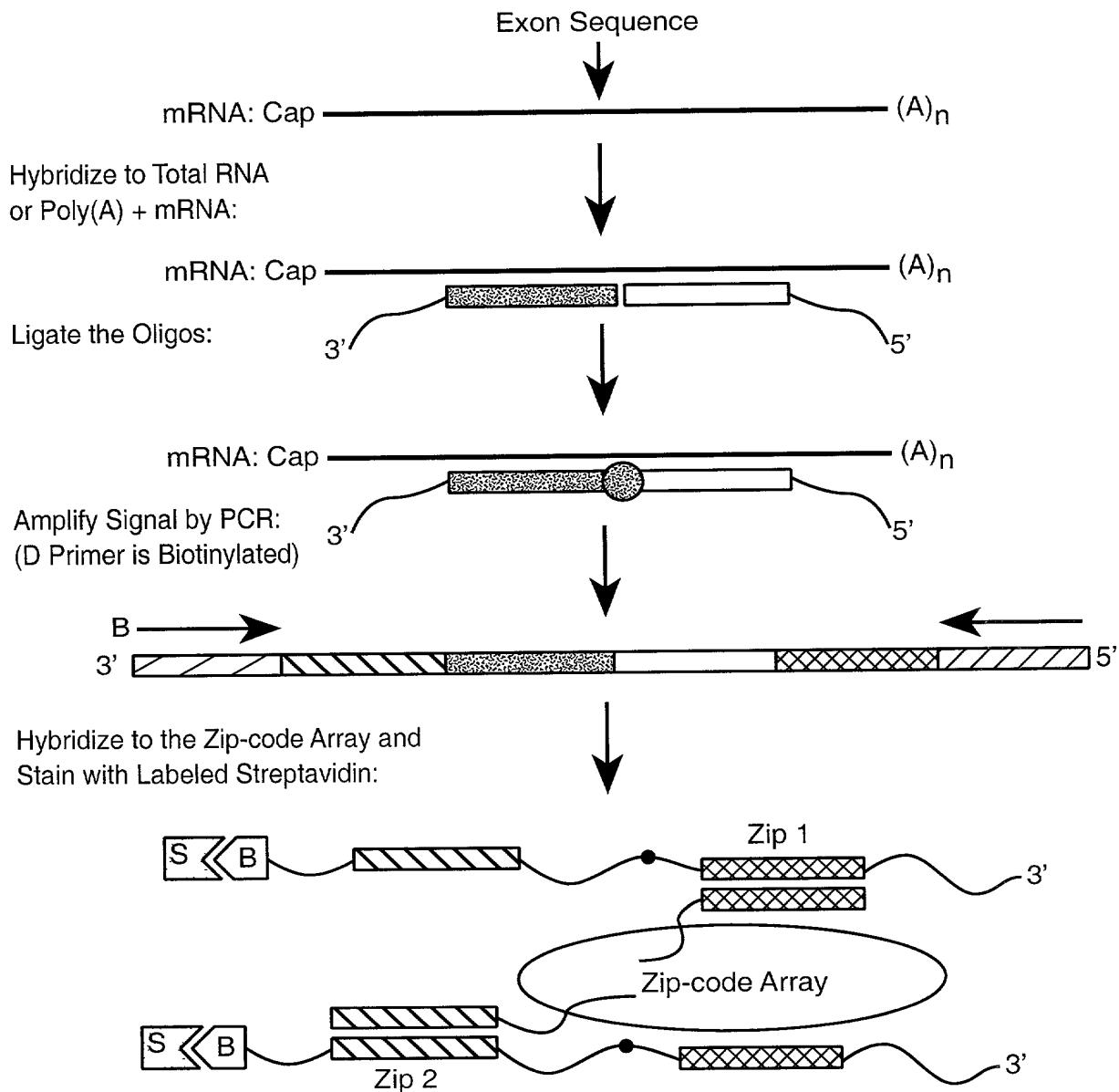
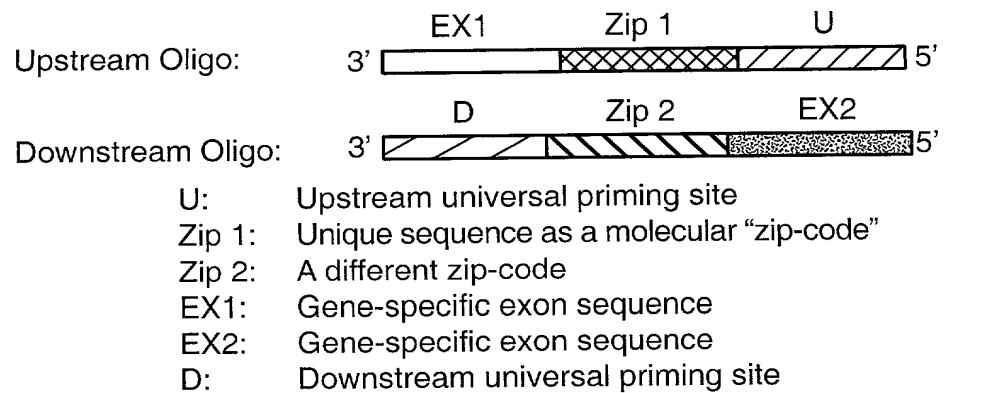


FIG.-3

Genome-wide RNA Alternative Splicing Monitoring Using Oligo-Ligation Strategy

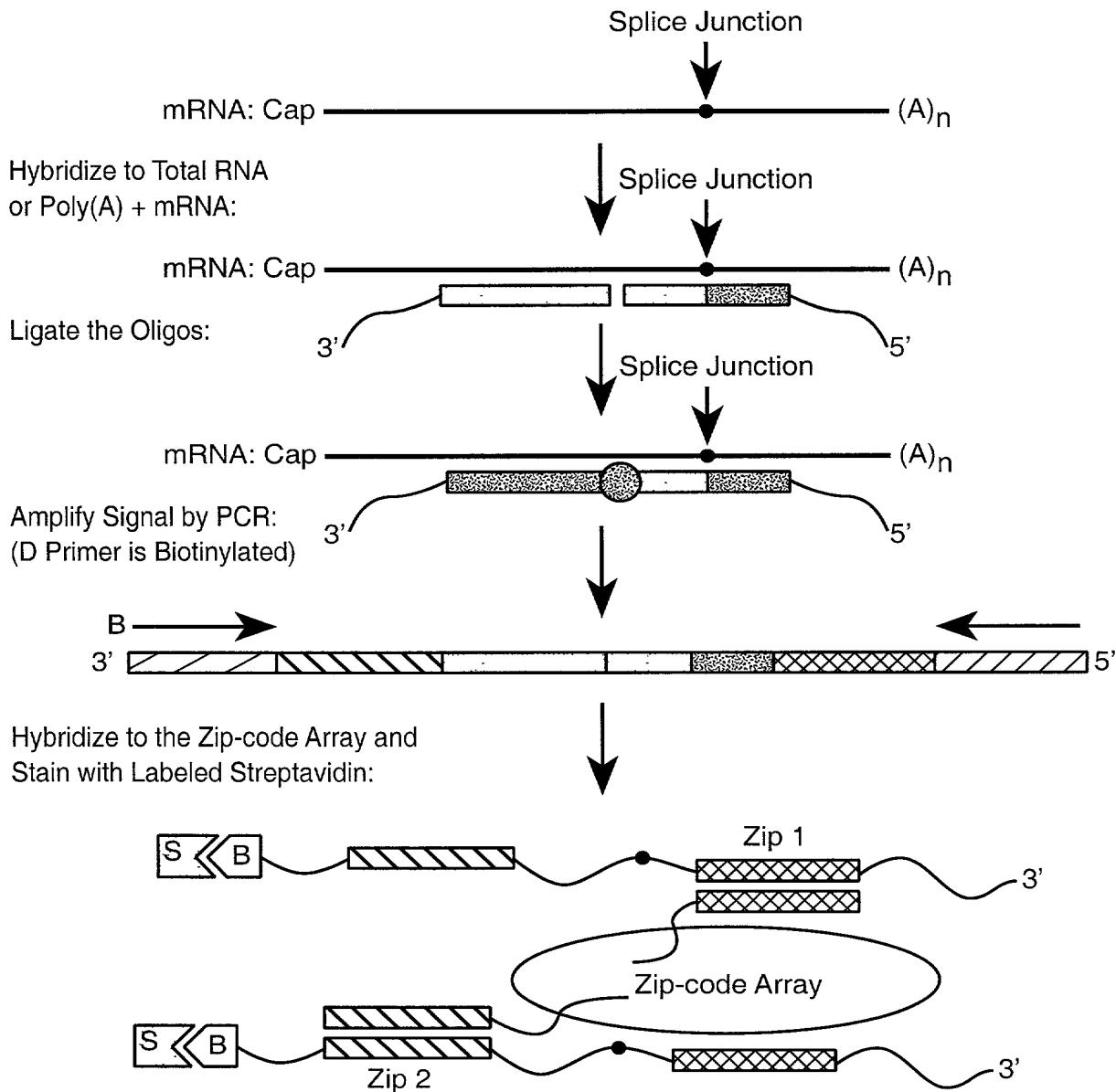
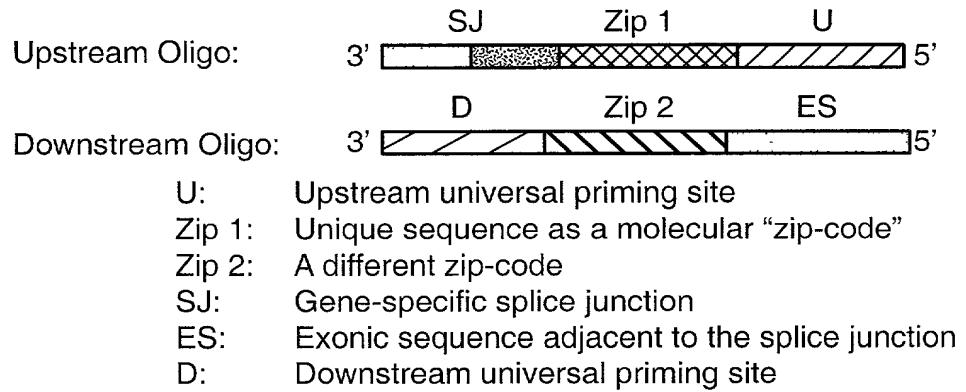
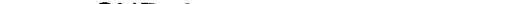
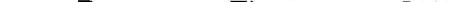


FIG.-4

Direct Genotyping Using a Whole-genome Oligo-ligation Strategy

Upstream Oligo: 

Downstream Oligo: 3'  5'

U: Upstream universal priming site
Zip 1: Unique sequence as a molecular “zip-code”
Zip 2: A different zip-code
SNP_A: SNP-specific sequence
SNP_B: SNP-specific sequence
D: Downstream universal priming site

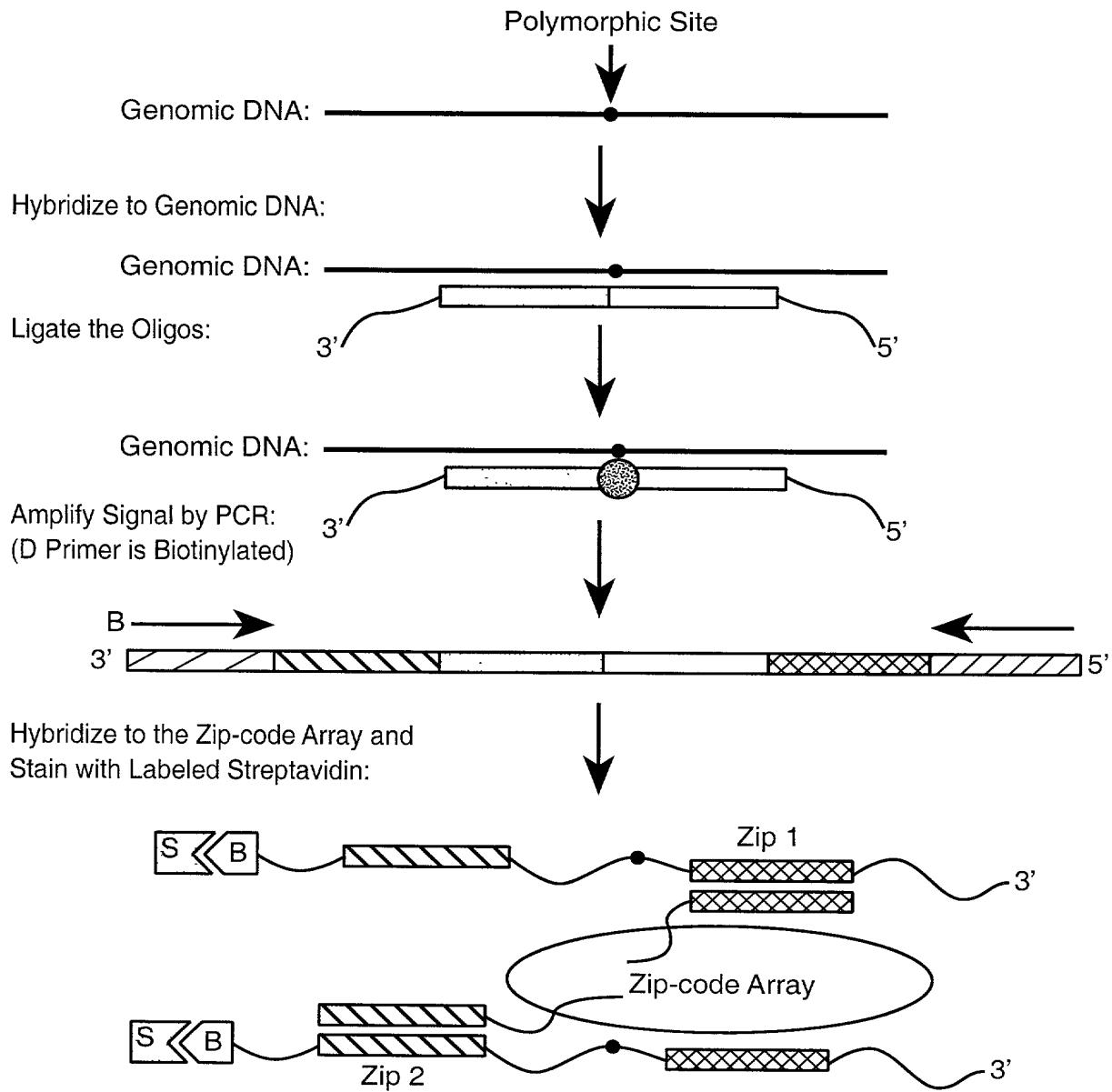
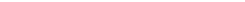


FIG._5

Whole-genome Oligo-ligation Strategy

Upstream Oligo: 3' **Target_U** **Zip 1** **U** 5'

Downstream Oligo: 3'  5'

Middle Oligo: Target_M
3' [REDACTED] 5'

U:	Upstream universal priming site
Zip 1:	Unique sequence as a molecular “zip-code”
Zip 2:	A different zip-code
Target_U:	Upstream target-specific sequence
Target_D:	Downstream target-specific sequence
Target_M:	Middle target-specific sequence
D:	Downstream universal priming site

Target: -

Hybridize to Target:

1

Target:

Ligate the Oligos:

1

Target:

Amplify Signal by PCR: (D Primer is Biotinylated)

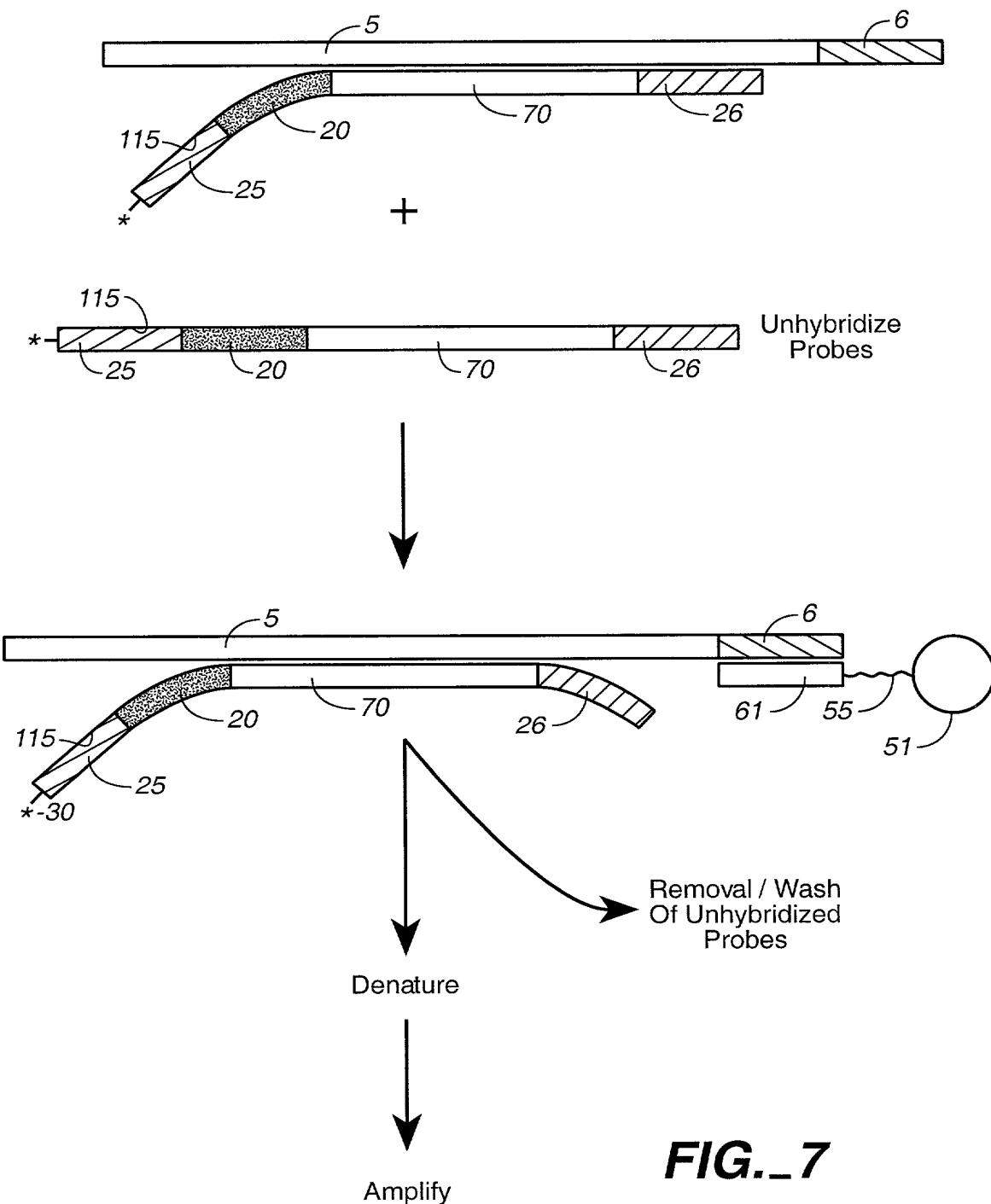
1

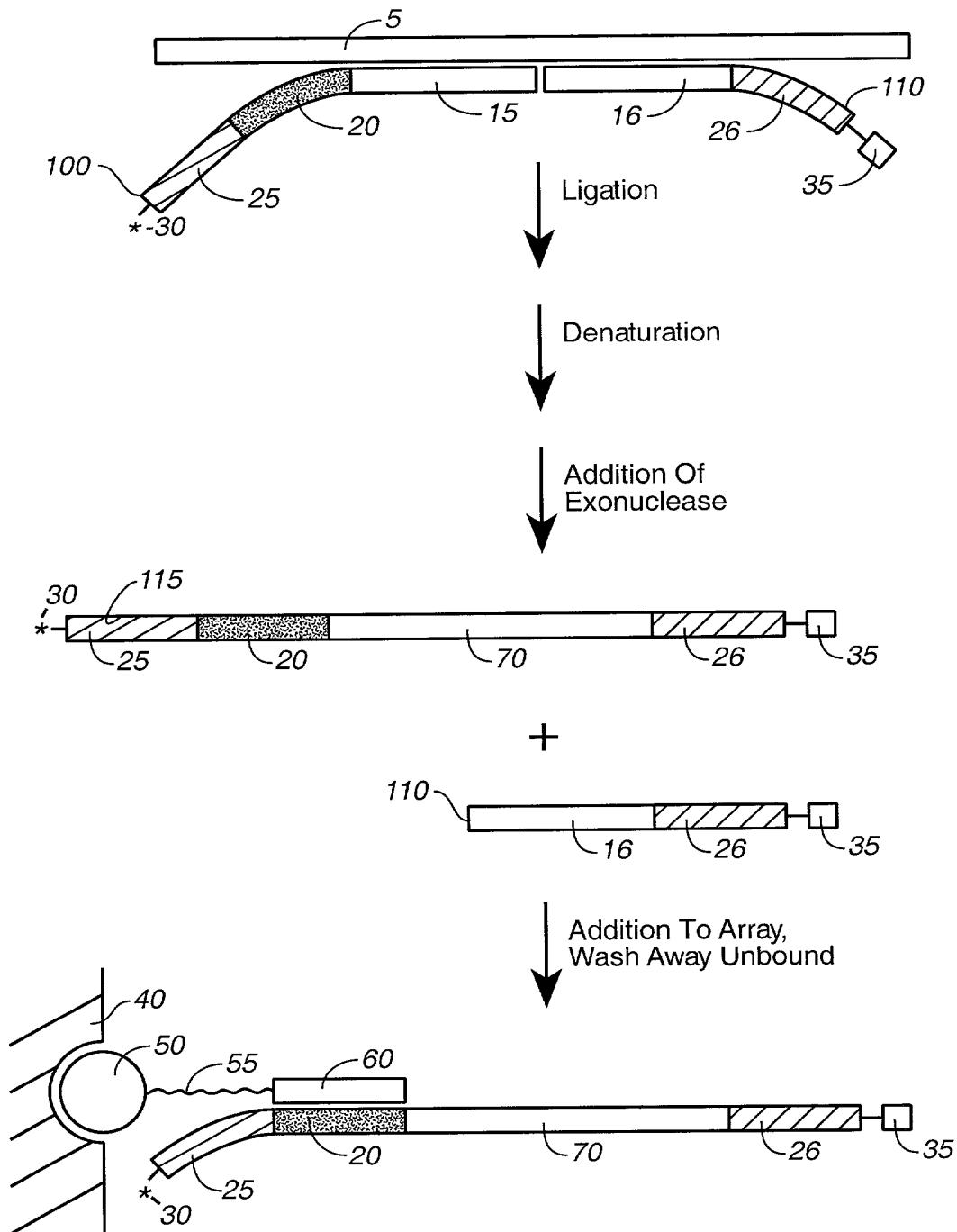
Diagram illustrating the 3' to 5' directionality of DNA strands. The top line represents the backbone, with arrows indicating the direction of the phosphate groups. The 3' end is labeled 'B' and the 5' end is labeled '5'.

Hybridize to the Zip-code Array and Stain with Labeled Streptavidin:

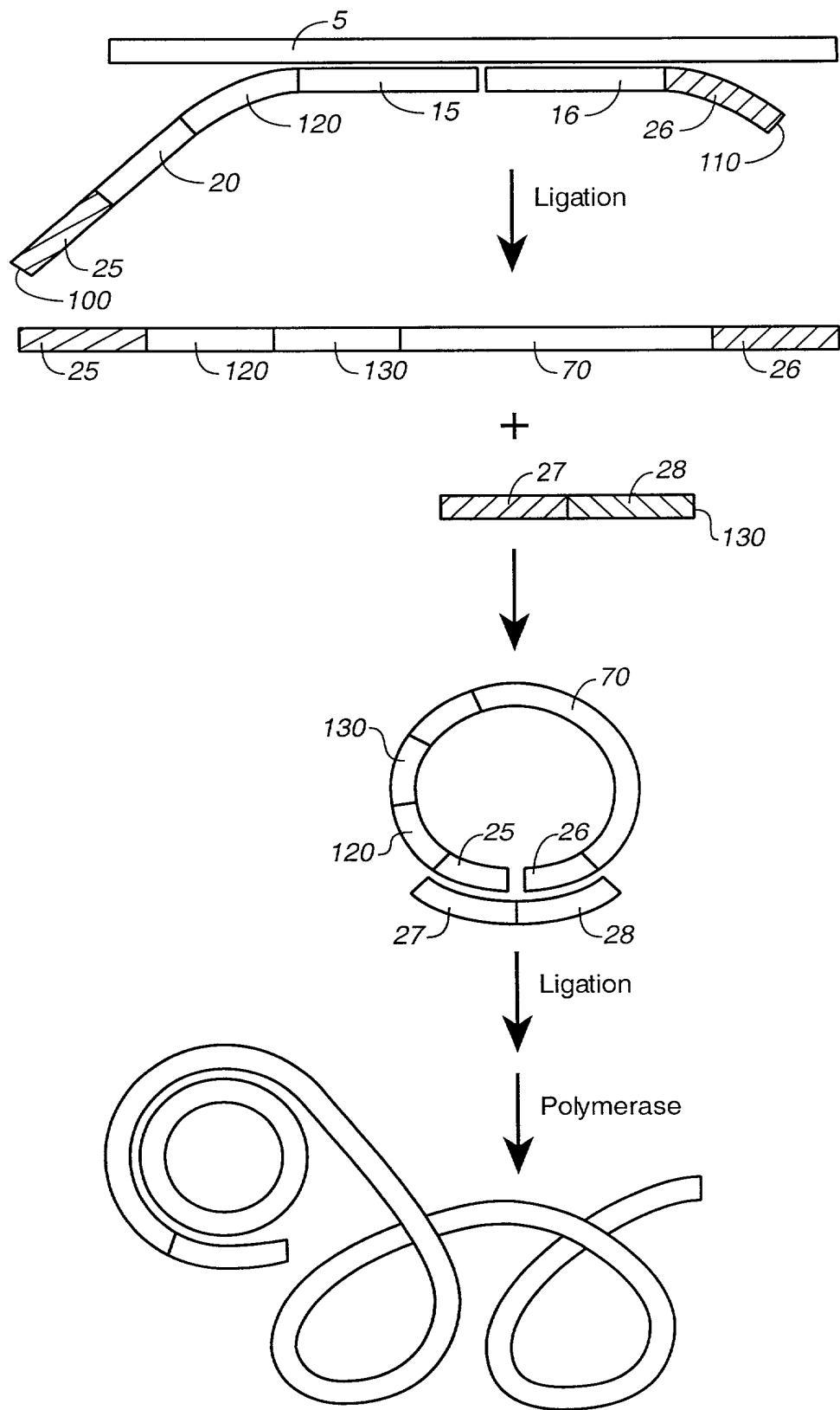
1

FIG. - 6

**FIG.-7**

**FIG._8**

9 / 11

**FIG._9**

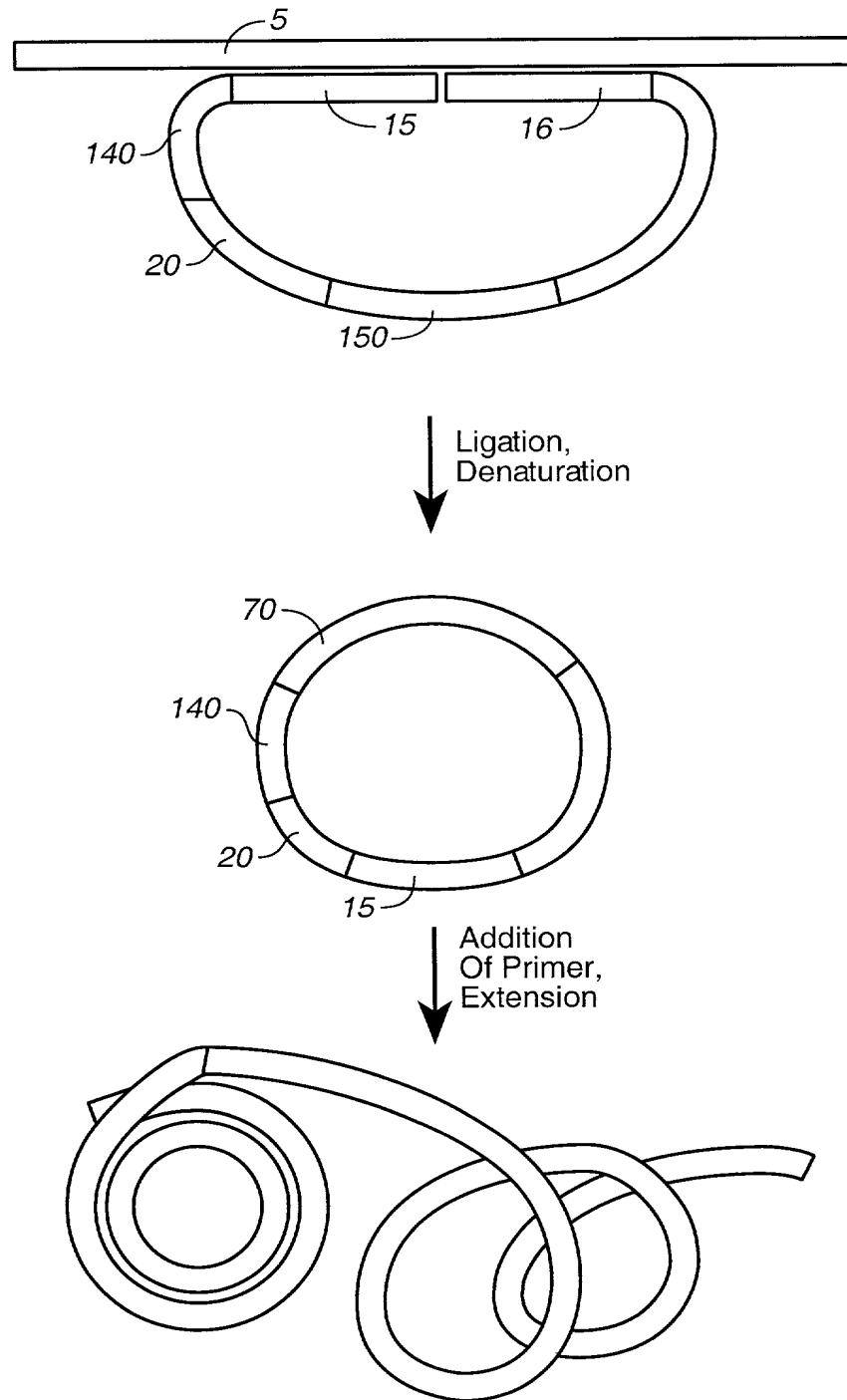
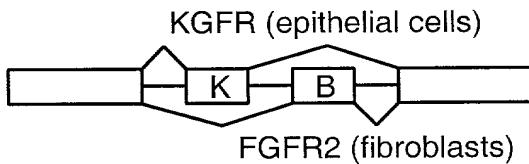


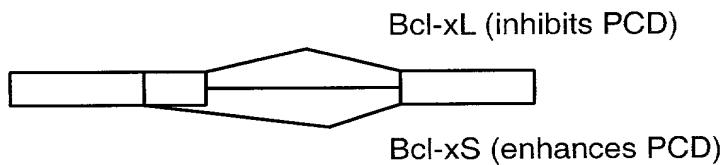
FIG.. 10

Alternative Splicing Targets Selected for Microarray Analysis

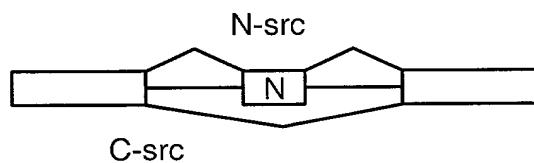
1. GAPDH (constitutive splicing control, signal normalization).
2. FGFR2 / KGF (mutually exclusive exons, internal cell type control):



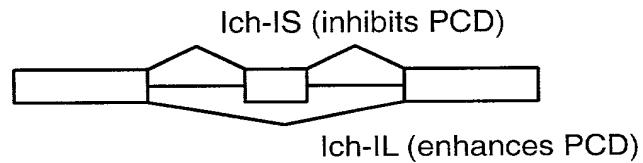
3. Bcl-x (alternative 5' ss):



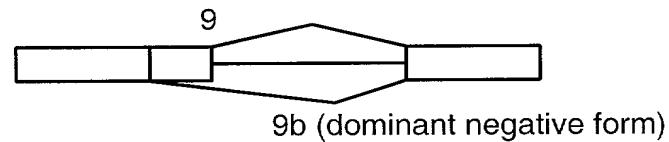
4. c-src (exon inclusion / exclusion):



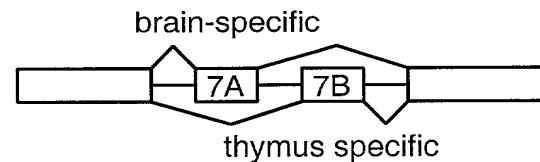
5. CASP2 (exon inclusion / exclusion):



6. CASP9 (alternative 5' ss):



7. Fyn (src family tyrosine kinase, mutually exclusive exons);



8. NOS1 (alternative promoters / alternative 5' ss):



FIG._ 11